## Work Order ID 92233

October-24-12 7:51:36 AM

\*92233\* Accept

**Item ID:** 647.2510

Revision ID:

Item Name: Sleeve

**Start Date:** 

23/10/2012

**Start Qty: 24.00** Req'd Qty: 24.00 **Required Date:** 06/11/2012

\*N900040100\*

Setup Start

Cust Item 1D:

**Customer:** 

Reference:

Process Plan: 465 Date: 12-10-24 Tooling: Approvals:

Date:

QC: 2 \_\_\_\_ Date: SPC (Y/N): Date: Stop

	٠. ا				**		1.4	/
Sequence ID/ Work Center ID	Operation Description	Set Up/ Tool Run Hours	ID Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr							
647.7300	-							
100		0.00	<del></del>				· <del></del> · · · · · · · · · · · · · · · · · ·	
*100*	DOOSAN LATHE				31			,
Doosan	Memo	0.00			<b>3</b> /	· · · <u>· · · · · · · · · · · · · · · · </u>		

Doosan Lathe 1- Turn as per Folio FB144 AND DWG

1211115

110

Memo -

\*110\*

Quality Control

QC2- Inspect parts off machine FAI/FAIB

-Deburr per dwg

0.00

1211115

										DQA	Date	:/3/18)/,
NCR: (	Yes / No				WORK ORDER NON-	-coi	NFORI	MANCE / UPD	ATE	QA Closed:	) Date	: 13/2/26
Work Ord	ler: 9-	223	3		DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
	No. <u>64</u>			0_	Rework Scrap Use-as-is Work Order Update			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				•	ption of work order update	- 1	Initial	Actio	on	Sign &		
Cause	Date	Step	Qty	IC	or Non-conformance	Cr	nief Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved		100	6	6 pails 4 Disker Disk Disker Disker Disk Disk Disk Disk Disk Disk Disk D	Lack of Sotter	۵	0AS 16 9-8 52042 1/03/26	-Ordered Brality S. -Sports 1e (1st operat - I part scr (2nd operat + Replace MIZ	ation)	10 51N/2	PCH C1	Q57042 13/03/26
	<u> </u>				<u></u>	FAUI	T CATE	GORY			X	0
Landi	ing Gear			_	General	_	1			1 //	18.0	<b>~</b> ¬
	Bending Centre No Cracks Crushed/		ntric to (	o/s	Bend BOM/Route Broken/Damaged Burrs Contamination		1	ion Incomplete ions Incomplete/Ui	nclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
,	Heat Trea	t			Countersink		Mislabe		<del> </del>	Positioned \	Vrong	
	Inspection		Tube		Cut Too Short		Misread		<u> </u>	Power Loss/		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

October-24-12 7:51:36 AM

Packaging

Item ID: 647.2510 Accept \*N900040100\* Setup Start Revision ID: Item Name: Sleeve **Start Qty: 24.00 Start Date:** 23/10/2012 **Cust Item ID: Required Date:** 06/11/2012 Req'd Qty: 24.00 **Customer:** Reference: Start Run Date: **Approvals: Process Plan: Tooling:** Date: Stop QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Tool ID Reject Tool # Plan Accept Reject Insp. **Work Center ID** Description **Run Hours** Code Qty Qty Number Stamp 140 QC8- Inspect parts - second check 0.00 \*140\* QC 0.00 Memo Quality Control 100% CHECK, CHECK ALL DIMENSIONS AND THREAD FIT 101129 150 0.00 **PURCHASING** \*150\* Purchasing 0.00 Memo Purchasing Certificate of conformaty is required 160 Receive & Inspect for Damage & Mat'l Certs 0.00 \*160\* Packaging 0.00 Memo

Ensure certificate of conformity is attached

1								-		DQA:	Date:	
NCR:	Yes / No				WORK ORDER NON-O	COI	NFORN	/ANCE / UP[	DATE	QA Closed:	Date:	
Work Ord	lor:				DISPOSITION				AGAINST DE			
Part	No				Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update		nitial	Act	ion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Cr	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												
						AUL	T CATE	3ORY				
Landi	Cracks	ot Conce /Crimped at		D/S	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		1	on Incomplete ions Incomplete/L nance	Jnclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
	Inspection	n Strip in	Tube		Cut Too Short	-	Misread		İ	Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

October-24-12 7:51:36 AM Item ID: 647.2510 Accept \*N900040100\* Setup Start Revision ID: Sleeve Item Name: **Start Qty: 24.00 Start Date:** 23/10/2012 **Cust Item ID: Required Date:** 06/11/2012 Req'd Oty: 24.00 **Customer:** Reference: Run Process Plan: Approvals: Date: Tooling: Stop QC: \_\_\_\_ Date: \_\_\_ SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool # Plan Tool ID Accept Reject Reject Insp. Work Center ID Description **Run Hours** Code Qty **Qty** Number Stamp 170 QC5- Inspect part completeness to step on W/O \*170\* QС Memo Quality Control Identify as per dwg & Stock Location: 180 \*120\* Packaging 0.00 Memo Packaging 190 QC21- Final Inspection - Work Order Release 0.00 \*190\* ms 3-3-25 0.00 Memo Quality Control

NCR:	Yes /	No				WORK ORDER NON-C	JOI	NFOR	VIANCE / UP	DATE	QA Closed:	Date:	
Work Ord	er.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap Use-as-is Work Order Update			Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other	
Root			·		Descri	ption of work order update		Initial	Act	tion	Sign &	·	
Cause	] [	Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved									•				.,
							AUL	T CATE	GORY				
Landi	Cei Cra Cru Cut Hei Ins	nding ntre No acks ashed/C ffs at Treat pection ples in	Strip in	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset	on Incomplete ions Incomplete/I nance led	Unclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Tur	ning Se	quence			Finish	Г	Out of 9	Sequence				

Outside Dimensions

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

## **Picklist Print**

October-24-12 7:51:40 AM

Work Order ID: 92233

Parent Item:

647.2510

Parent Item Name: Sleeve

\*92233\*

\*647 2510\*

**Start Date:** 23/10/2012

**Required Date:** 06/11/2012

**Start Qty: 24.00** 

Required Qty: 24.00

**Comments:** 

IPP REV:A NEW ISSUE 12-10-22 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	 Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M174PH-H1150R1.000		Purchased	No	 		f	0.0000		7.9992			
*N/474DII	LIAAEOE	24 000	k					44	<del>-</del> /	20	1400	

`M1/4PH-H115()R1 ()()()\*

17-4 SS H1150 ROUND BAR 1.000

M174 PH900 R 1.00

121280

											DQA.	Date.	
NCR:	Yes	/ No				WORK ORDER NON-C	O	NFORM	/ANCE / UP	DATE	QA Closed:	Date:	•
Work Ord	or:					DISPOSITION				AGAINST DE		· · · · · · · · · · · · · · · · · · ·	
Part I	- No					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root						ption of work order update		nitial	Act	ion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
						F	AUL	T CATE	GORY				
Landi						General		l		· · · · · · · · · · · · · · · · · · ·			<b>7</b>
		Bending Centre No Cracks	ot Concer	ntric to (	o/s	Bend BOM/Route Broken/Damaged		Grain Hardwa			Ovalized Over/Under Part Incorre		Pressure/Forced Temperature/Cure Weld
		Cracks Crushed/0	^rimned			Burrs	$\vdash$	1 '	on Incomplete ons Incomplete/U	Inclear	Part Lost/M	<u> </u>	Wrong Stock Pulled
:	-	Cuffs	zimpcu,			Contamination	-	Mainte		-	Part Moved	_	Tarrong Stock I diled
j.		Heat Trea	t			Countersink	$\vdash$	Mislabe			Positioned V		
	-	nspection		Tube		Cut Too Short		Misread			Power Loss/	_	Other
ı	$\overline{}$	Ripples in				Drill Holes		Offset		_	_		•

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

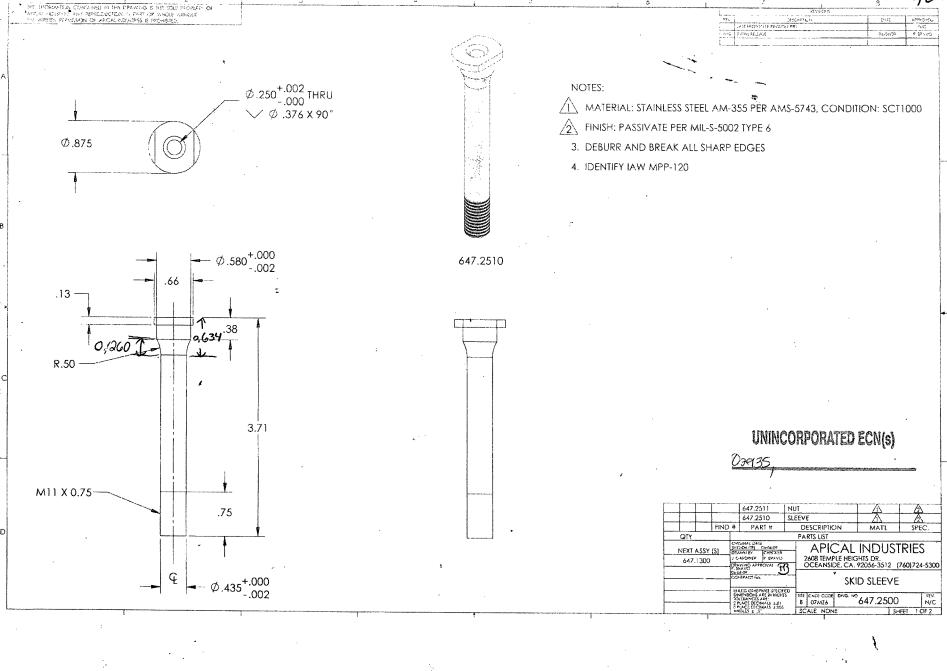
Drawing

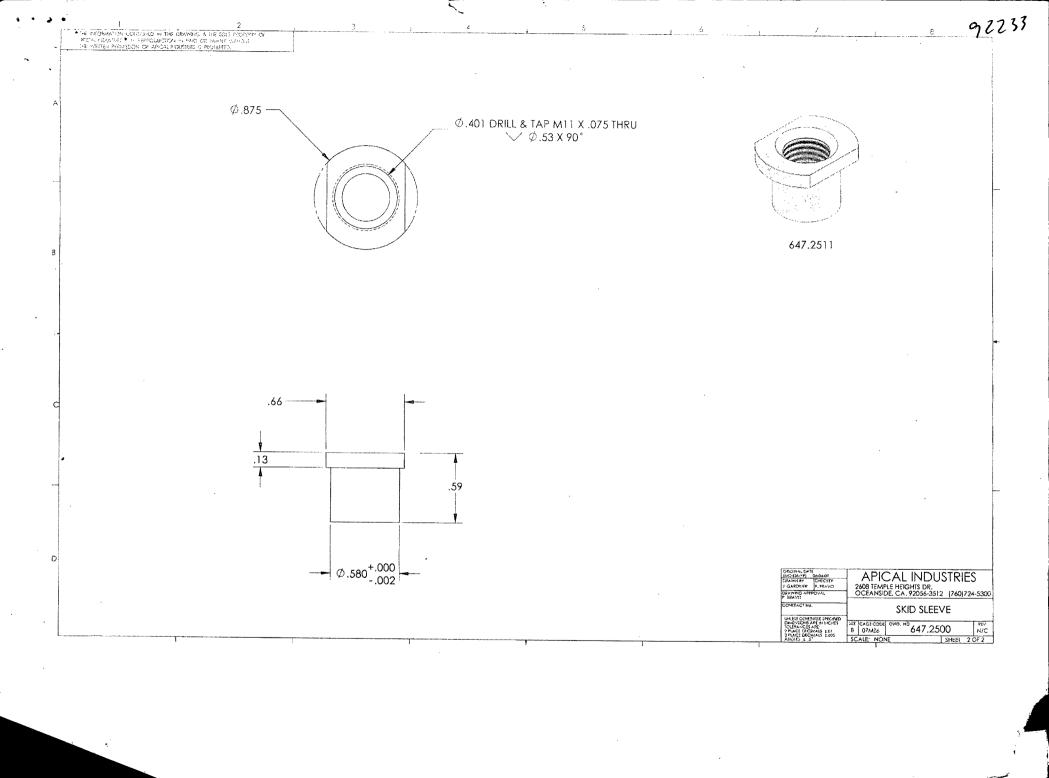
Finish

, <b>,</b> , , , , , , , , , , , , , , , , ,			
	ENGINEERING CHANGE NOTICL NO. 02935		SHEET 1 OF 1
APICALI	DWG NO. 647.2500 REVINC BY N.CAP	DATE: 07/	14/10 EFFECT ON DWG
INDUSTRIES, INC.	DWG TITLE: SKID SLEEVE		
		Marcel France	EFFI CURRENT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVYSED PART MATERIAL		
2 FINISH: F 3. DEBURR	PASSIVATE PER MIL-S-5002 TYPE 6 AND BREAK ALL SHARP EDGES ( IAW MPP-120		SHOT RETURE ENGEN UNCONTR SUBJECT TO WITHOR WO NO92233_MC5 (2-10-24)
FIN TO PART NUMBER	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:	CHANC	JE CATEGORY DER R	REVIEW REQUIRED YES 🗵 NO

4 4 3

1 **k**. .





DART AEROSPACE LTD	Work Order:	52233
Description: Seeve	Part Number:	647.2510
Inspection Dwg: 647. 2500 Rev: N/C		Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

	111011		<del></del>	[	<u> </u>	
Drawing	Tolerance	Actual	Accept	Reject	Method of Inspection	Comments
Dimension		Dimension			mspection	
0.875	±.010	-875	/-		11-5	Usin
0.250	7 7	0251			5/1-01	
d.376x 90°.	±010/±.8	375-X 78			27-1	
0.580	+000/-1002	.579			21-85	Mic.
-66	±.030	,659			37- A	
-13	±.030	132			57-4	
38	1030	340	/		21-4	
R.50	±.030	R500			89-4	
3.21	±.030	3.208	//		- 4	
.45	7.030	- 740	1		5x-1	
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1111/						
					<u> </u>	
		<u> </u>	GAS	•	<u> </u>	<u> </u>
		• ••	46		<b>A</b>	

		<u> </u>		
Measured by:	Audited by:	15	Preliminary Approval:	
Date: /2///5	Date: //	1179	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

### **Chantal Lavoie**

From:

Marc Bellavance <mbellavance@dartaero.com>

Sent:

December 4, 2012 12:18 PM

To: Subject:

'Chantal Lavoie' RE: Question?

Chantal,

The Passivation Treatment paragraph of MIL-S-5002 states that the process should be performed in accordance with QQ-P-35. On that basis, and to answer your question, MIL-S-5002 Type VI (or Type 6) would be equivalent to QQ-P-35 Type VI (or Type 6).

I would also like to point out that QQ-P-35 is a canceled spec, and itself automatically refers to AMS2700 for aerospace and ASTM A967 for other industries.



Marc Bellagar ce

Technical/Shop Support

T. 613-632-5200 | C. 613-676-0992 | F. 613-632-9311

1270 Aberdeen Street, Hawkesbury, Ontario, Canada, K6A 2K7

Technical Publications: Verify Revision Status/Download HERE!



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From: Chantal Lavoie [mailto:clavoie@dartaero.com]

**Sent:** Tuesday, December 04, 2012 11:04 AM

**To:** Marc Bellavance **Subject:** FW: Question?

Hi Marc.

I would need your help. Could you tell me if passivation MIL-S-5002 type 6 is the same as QQ-P-35.

Thanks Chantal

From: Brigitte Golden [mailto:bgolden@dartaero.com]

Sent: December 4, 2012 10:26 AM

To: clavoie@dartaero.com

Cc: L Lacelle; rlebel@atgindustries.com

**Subject:** FW: Question?

FYI

From: Roger Lebel [mailto:rlebel@atgindustries.com]

Sent: Tuesday, December 04, 2012 10:19 AM

**To:** Brigitte Golden **Subject:** RE: Question?

#### Bonjour Brigitte,

Nous faisons du QQ-P-35. D'apres nos recherche, le MIL-S-5002 Type 6 est le meme traitement. Donc oui on peut le faire

Par contre, quelle sont les dimensions de vos pièces?

Merci

Marc-André

## Thank you/Merci!

### Roger Lebel

Manager, Anodizing & Plating Department

Director, Human Resources www.ATGIndustries.com

Email: <u>rlebel@industries.com</u> Phone: (613) 446-4544 Fax: (613) 446-4556

From: Brigitte Golden [bgolden@dartaero.com] Sent: Monday, December 03, 2012 3:34 PM

To: Roger Lebel

Cc: <a href="mailto:clavoie@dartaero.com">clavoie@dartaero.com</a>
Subject: Question?

Hi Roger,

We have a change is a DWG, Material is stainless steel 17-4 PH, condition H1150.

Would you be able to finish: passivate per MIL-S-5002 Type 6?

If so, well, you will receive a PO

Thank You

Brigitte Golden Order Processing

#### DART AEROSPACE Ltd.

1270 Aberdeen Street Hawkesbury Ontario Canada K6A 1K7 Tel:(613)632-5200 Ext 224 Fax:(613)632-1053

# bgolden@dartaero.com



Please consider your environmental responsibility before printing this e-mail



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number 62149

Date: 14-Jan-13

Ship To

DART AEROSPACE LTD

1270 ABERDEEN ST

HAWKESBURY, ON K6A 1K7

Canada

DART AFROSPACE LID 1276 AFFRDEEN ST. HAWKESBURY, ON- K6A 1K7 Canada

Ph: 613-632-5200

To

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

P11. 013-032-5K	0 Fax: 613-632-1185	Pn: 6	13-032-5200	Fax: 613-632-1165	
Terms '		Ship Ya			
	Description	ng sylledgregation (f	and the second second		
lot	Part: ASST 24 PCS 647.2510 PASSIVATE PER QQ-P-35		Rev:		
	1 PC 647.1613 12 PCS 647.1712 3 PCS 647.1810 40 PCS 647.1812 2 PCS 647.1813 1 PC 647.1816 20 PCS 646.3312 10 PCS 646.3714 40 PCS 646.3718 20 PCS 646.3811 6 PCS 647.7910 12 PCS 647.7912 6 PCS 647.7916 40 PCS 647.9016 30 PCS 647.9016 30 PCS 647.9017 60 PCS 647.9017				
	HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20130027	PO: PO18583	Line:		



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List Date: 14-Jan-13

Ship To

DART AFROSPACE LTO 1270 ABERDEEN ST. HAWKESBURY ON KO Canada

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON K6A 1K7 Canada

То

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-52 <mark>00</mark>	Fax: 613-632-1185	Ph: 613-632-5200	Fax: 613-632-1185
Terms	Shirb	Via 1	The state of the s
Quantity - Description	TO THE RESERVE OF THE PERSON O	estate de la companya	
	Certificate of Conforman	ce	
A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.			
DATE : 19	ISO 9001 : 2008 REGISTER ATG SALES-2010 TERMS A 1//13 O SIGNATURE :	ED PPLY	
1 11	SIGNATURE :		
		;	
			·